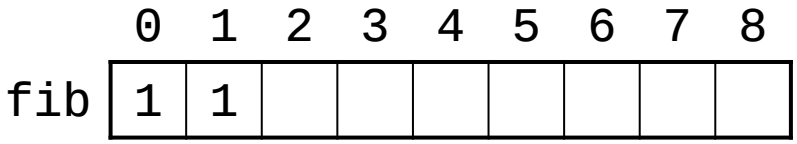
Fibonacci numbers

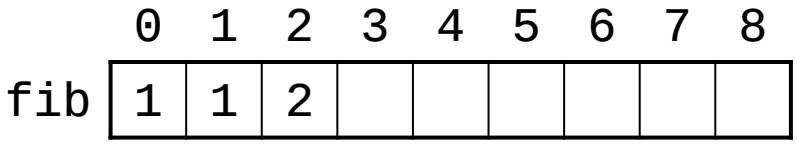
Fibonacci numbers

```
1, 1, 2, 3, 5, 8, 13, 21, 34, 55,...
```

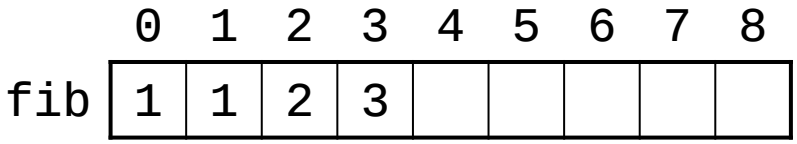
Fibonacci numbers



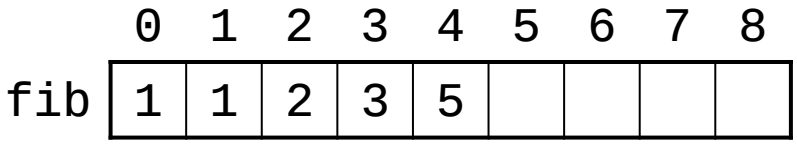
Fibonacci numbers



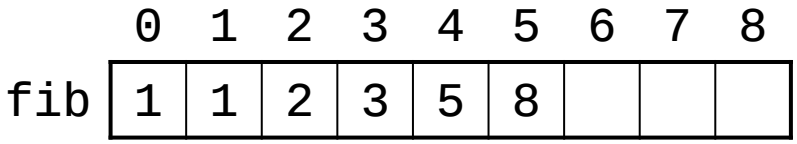
Fibonacci numbers



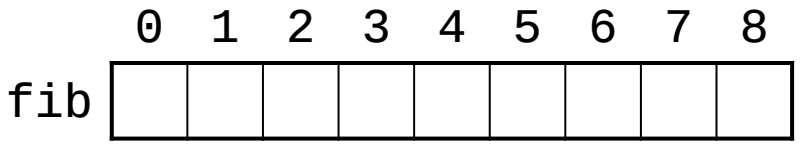
Fibonacci numbers



Fibonacci numbers

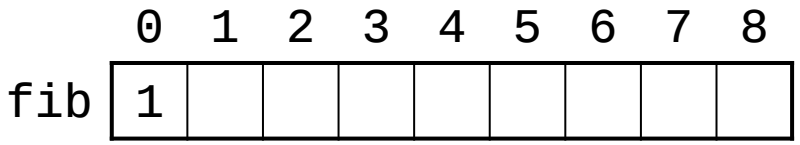


Fibonacci numbers




```
fib[0] = 1;
fib[1] = 1;
```

Fibonacci numbers

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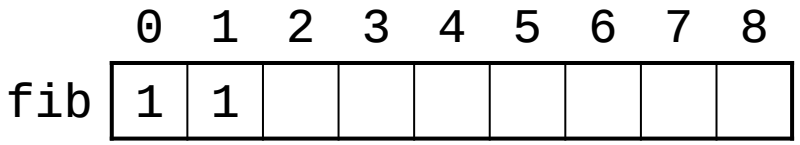
fib[0] = 1;
fib[1] = 1;
```

Fibonacci numbers

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fib[0] = 1;
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```
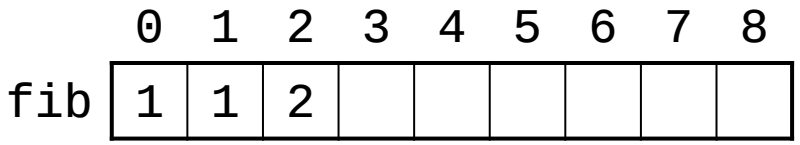
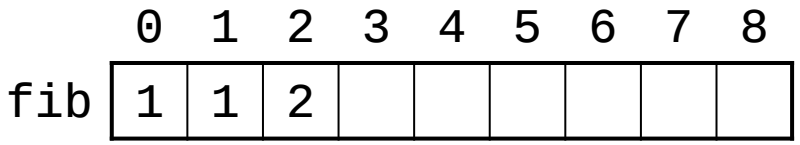

Fibonacci numbers



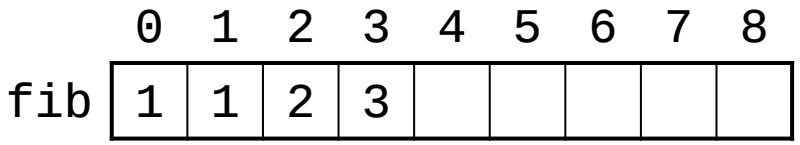

```
fib[0] = 1;
fib[1] = 1;
```

Fibonacci numbers




```
fib[0] = 1;
fib[1] = 1;
fib[2] = fib[0] + fib[1];
```

Fibonacci numbers




```
fib[0] = 1;
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fib[2] = fib[0] + fib[1];
```
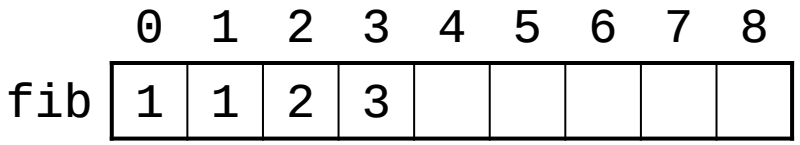
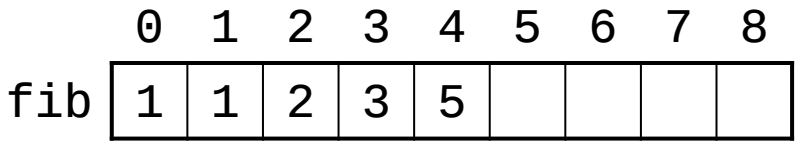

Fibonacci numbers




```
fib[0] = 1;
fib[1] = 1;
fib[2] = fib[0] + fib[1];
fib[3] = fib[1] + fib[2];
```

Fibonacci numbers




```
fib[0] = 1;
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fib[2] = fib[0] + fib[1];
fib[3] = fib[1] + fib[2];
```
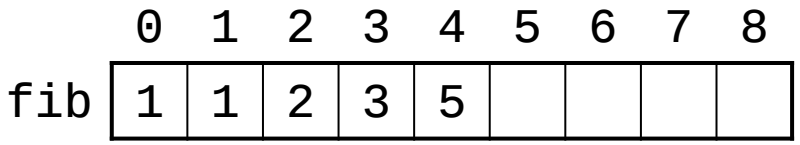
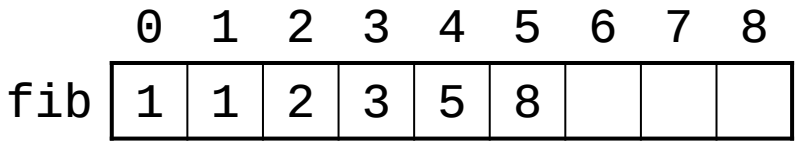

Fibonacci numbers



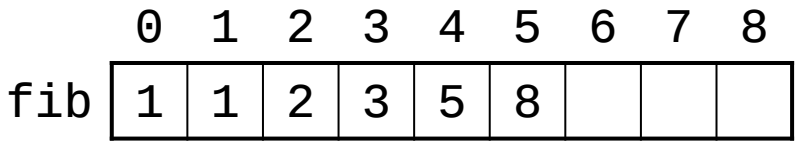

```
fib[0] = 1;
fib[1] = 1;
fib[2] = fib[0] + fib[1];
fib[3] = fib[1] + fib[2];
fib[4] = fib[2] + fib[3];
```

Fibonacci numbers



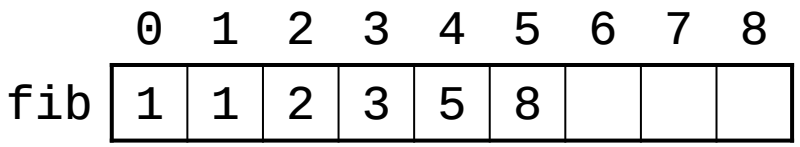

```
fib[0] = 1;
fib[1] = 1;
fib[2] = fib[0] + fib[1];
fib[3] = fib[1] + fib[2];
fib[4] = fib[2] + fib[3];
```

Fibonacci numbers




```
fib[0] = 1;
fib[1] = 1;
fib[2] = fib[0] + fib[1];
fib[3] = fib[1] + fib[2];
fib[4] = fib[2] + fib[3];
fib[5] = fib[3] + fib[4];
```

Fibonacci numbers




```
fib[0] = 1;
fib[1] = 1;
fib[2] = fib[0] + fib[1];
fib[3] = fib[1] + fib[2];
fib[4] = fib[2] + fib[3];
fib[5] = fib[3] + fib[4];
```

⋮ ⋮ ⋮

Fibonacci numbers

```
fib[0] = 1;
fib[1] = 1;
fib[2] = fib[0] + fib[1];
fib[3] = fib[1] + fib[2];
fib[4] = fib[2] + fib[3];
fib[5] = fib[3] + fib[4];
   :          :          :
   :          :          :
```

```
fib[0] = 1;
fib[1] = 1;
for( int i =  ;        ;     )
                             ;
```

Fibonacci numbers

```
fib[0] = 1;
fib[1] = 1;
fib[2] = fib[0] + fib[1];
fib[3] = fib[1] + fib[2];
fib[4] = fib[2] + fib[3];
fib[5] = fib[3] + fib[4];
   :          :          :
   :          :          :
```

```
fib[0] = 1;
fib[1] = 1;
for( int i =  ;        ;     )
    fib[i] =          +         ;
```

Fibonacci numbers

```
fib[0] = 1;
fib[1] = 1;
fib[2] = fib[0] + fib[1];
fib[3] = fib[1] + fib[2];
fib[4] = fib[2] + fib[3];
fib[5] = fib[3] + fib[4];
   :          :          :
   :          :          :
```

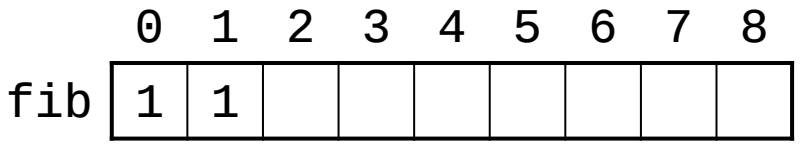
```
fib[0] = 1;
fib[1] = 1;
for( int i =  ;         ;     )
    fib[i] = fib[i-2] + fib[i-1];
```

Fibonacci numbers

```
fib[0] = 1;
fib[1] = 1;
fib[2] = fib[0] + fib[1];
fib[3] = fib[1] + fib[2];
fib[4] = fib[2] + fib[3];
fib[5] = fib[3] + fib[4];
   :          :          :
   :          :          :
```

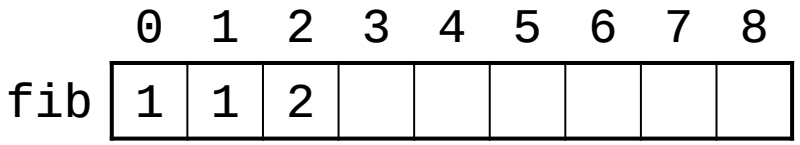
```
fib[0] = 1;
fib[1] = 1;
for( int i = 2; i < num; i++ )
    fib[i] = fib[i-2] + fib[i-1];
```

Fibonacci numbers



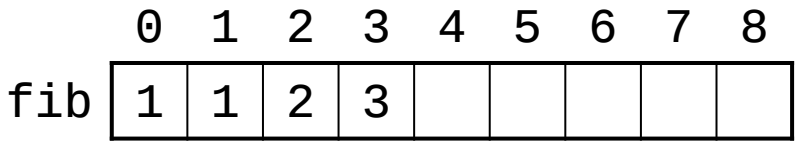

```
fib[ 0 ] = 1;
fib[ 1 ] = 1;
for( int i{ 2 }; i < number; i++ )
   fib[ i ] = fib[ i - 2 ] + fib[ i - 1 ];
```

Fibonacci numbers



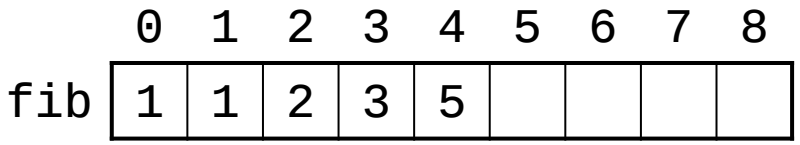

```
fib[ 0 ] = 1;
fib[ 1 ] = 1;
for( int i{ 2 }; i < number; i++ )
   fib[ i ] = fib[ i - 2 ] + fib[ i - 1 ];
```

Fibonacci numbers




```
fib[ 0 ] = 1;
fib[ 1 ] = 1;
for( int i{ 2 }; i < number; i++ )
   fib[ i ] = fib[ i - 2 ] + fib[ i - 1 ];
```

Fibonacci numbers




```
fib[ 0 ] = 1;
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for( int i{ 2 }; i < number; i++ )
   fib[ i ] = fib[ i - 2 ] + fib[ i - 1 ];
```
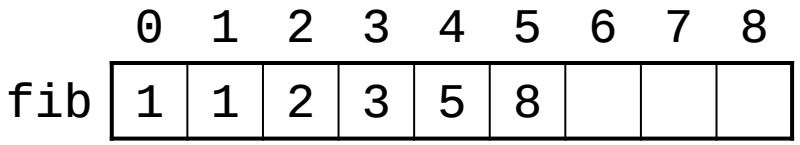

Fibonacci numbers



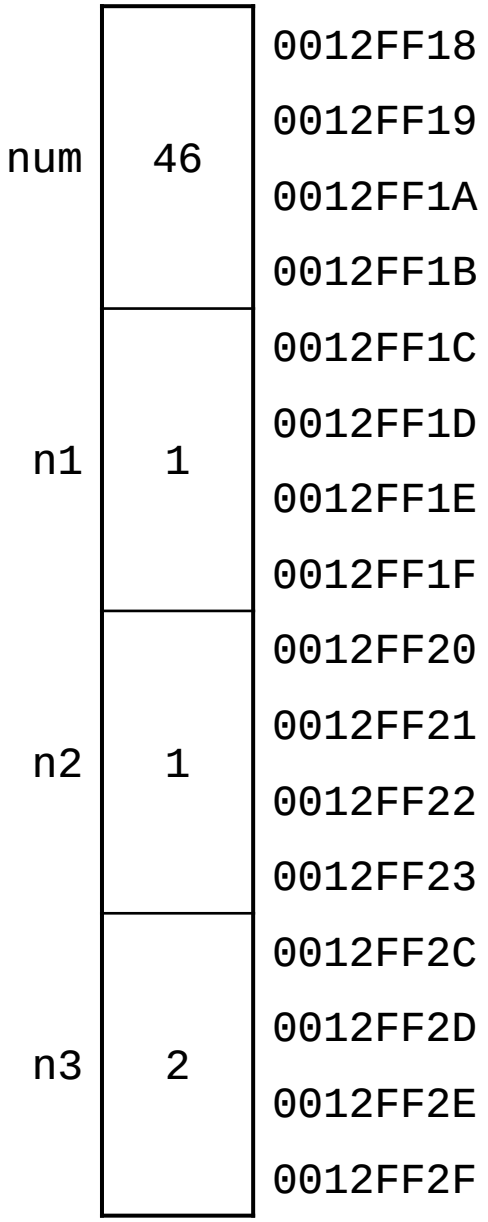

```
fib[ 0 ] = 1;
fib[ 1 ] = 1;
for( int i{ 2 }; i < number; i++ )
   fib[ i ] = fib[ i - 2 ] + fib[ i - 1 ];
```

```
int main()
{
   int number;
   int fib[ 1000 ];
   cout << "Enter a positive integer ( 2 - 46 ): ";
   cin >> number;
   fib[ 0 ] = 1;
   fib[ 1 ] = 1;
   for( int i{ 2 }; i < number; i++ )
      fib[ i ] = fib[ i - 2 ] + fib[ i - 1 ];

   for( int i{ 0 }; i < number; i++ )
      cout << fib[ i ] << endl;
   cout << endl;
}
```

Don’t use arrays

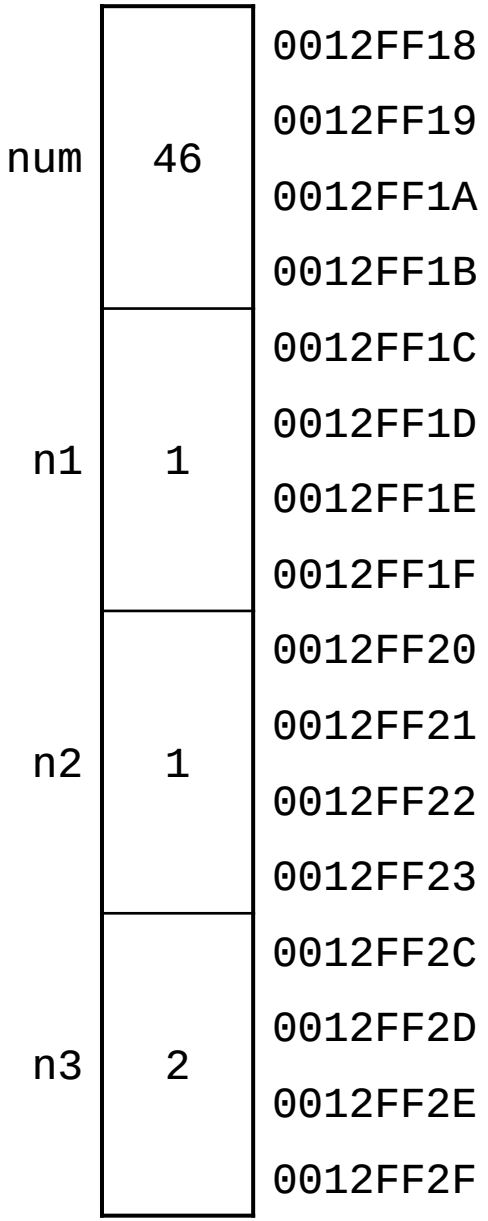
Fibonacci numbers

```
int n1{ 1 };
int n2{ 1 };
int n3{ 2 };
cout << n1 << endl;
cout << n2 << endl;
cout << n3 << endl;
```



Fibonacci numbers

```
int n1{ 1 };
int n2{ 1 };
int n3{ 2 };
cout << n1 << endl;
cout << n2 << endl;
cout << n3 << endl;

n1 = n2;
n2 = n3;
n3 = n1 + n2;
cout << n3 << endl;
```



Fibonacci numbers

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int n1{ 1 };
int n2{ 1 };
int n3{ 2 };
cout << n1 << endl;
cout << n2 << endl;
cout << n3 << endl;

n1 = n2;
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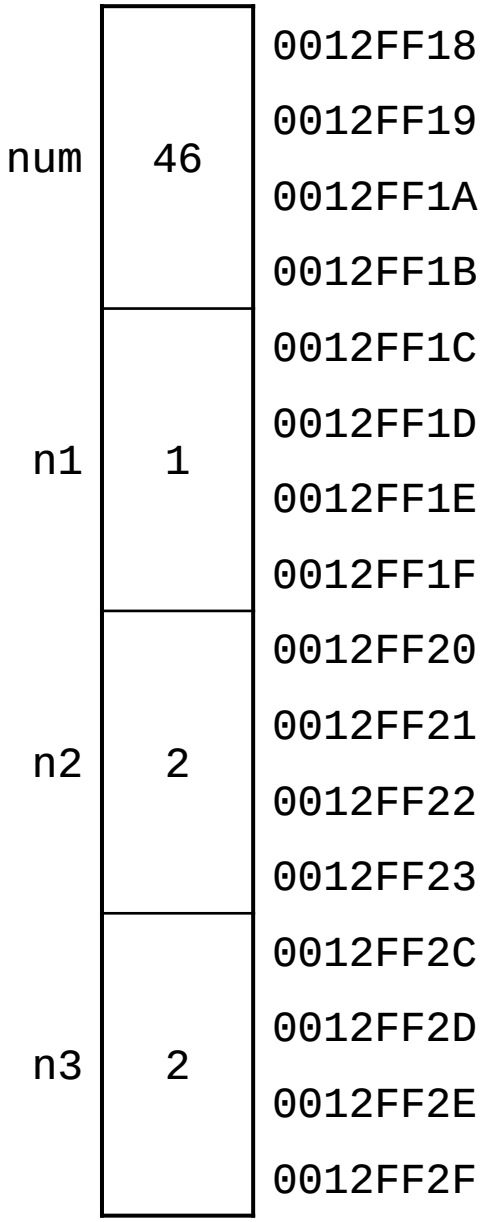
n3 = n1 + n2;
cout << n3 << endl;
```



Fibonacci numbers

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int n1{ 1 };
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cout << n1 << endl;
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cout << n3 << endl;

n1 = n2;
n2 = n3;
n3 = n1 + n2;
cout << n3 << endl;
```

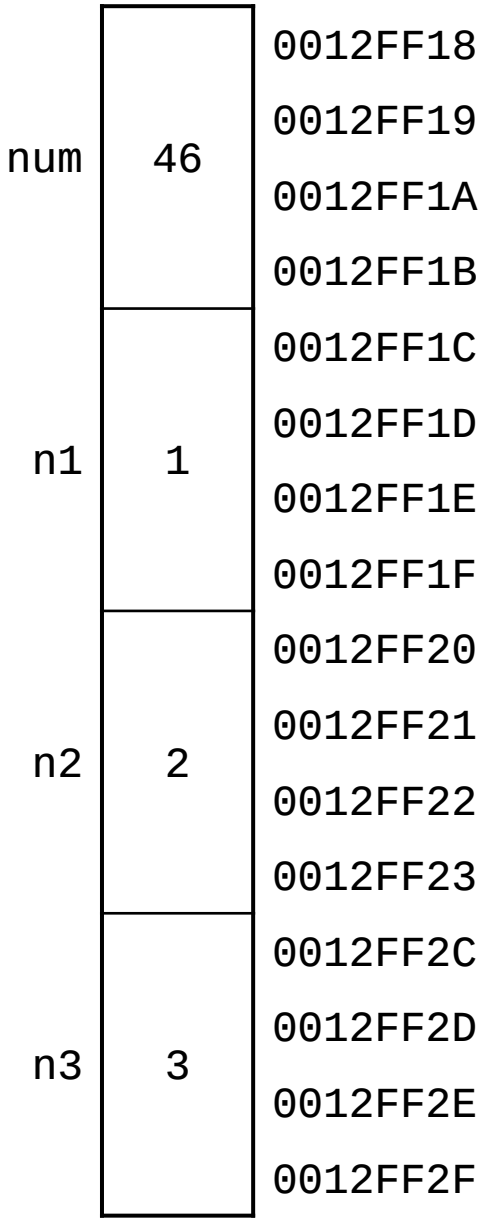

Fibonacci numbers

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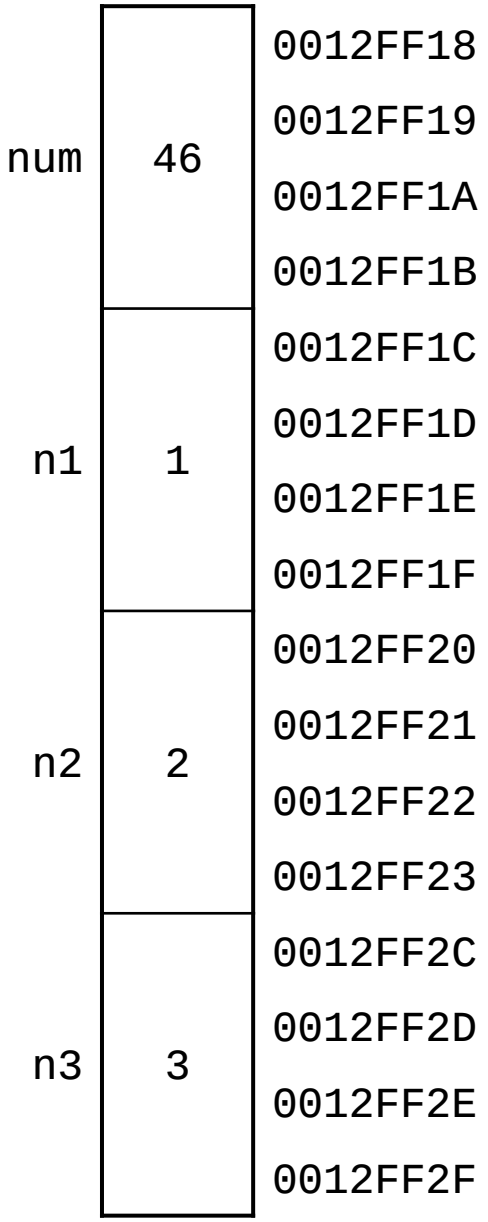
int n1{ 1 };
int n2{ 1 };
int n3{ 2 };
cout << n1 << endl;
cout << n2 << endl;
cout << n3 << endl;

n1 = n2;
n2 = n3;
n3 = n1 + n2;
cout << n3 << endl;

n1 = n2;
n2 = n3;
n3 = n1 + n2;
cout << n3 << endl;
```



Fibonacci numbers

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int n3{ 2 };
cout << n1 << endl;
cout << n2 << endl;
cout << n3 << endl;

n1 = n2;
n2 = n3;
n3 = n1 + n2;
cout << n3 << endl;

n1 = n2;
n2 = n3;
n3 = n1 + n2;
cout << n3 << endl;
```

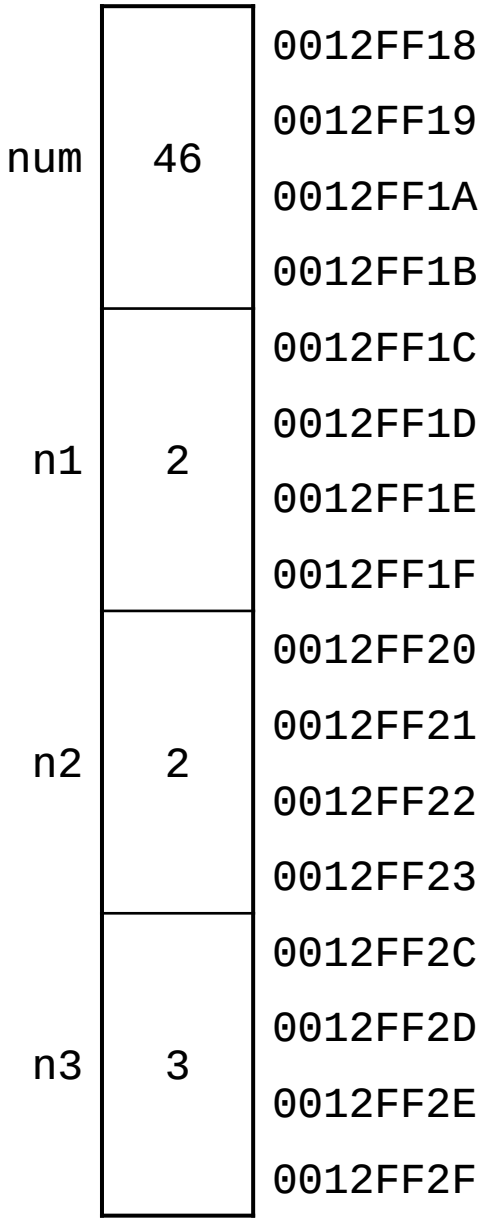

Fibonacci numbers

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cout << n1 << endl;
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n1 = n2;
n2 = n3;
n3 = n1 + n2;
cout << n3 << endl;

n1 = n2;
n2 = n3;
n3 = n1 + n2;
cout << n3 << endl;
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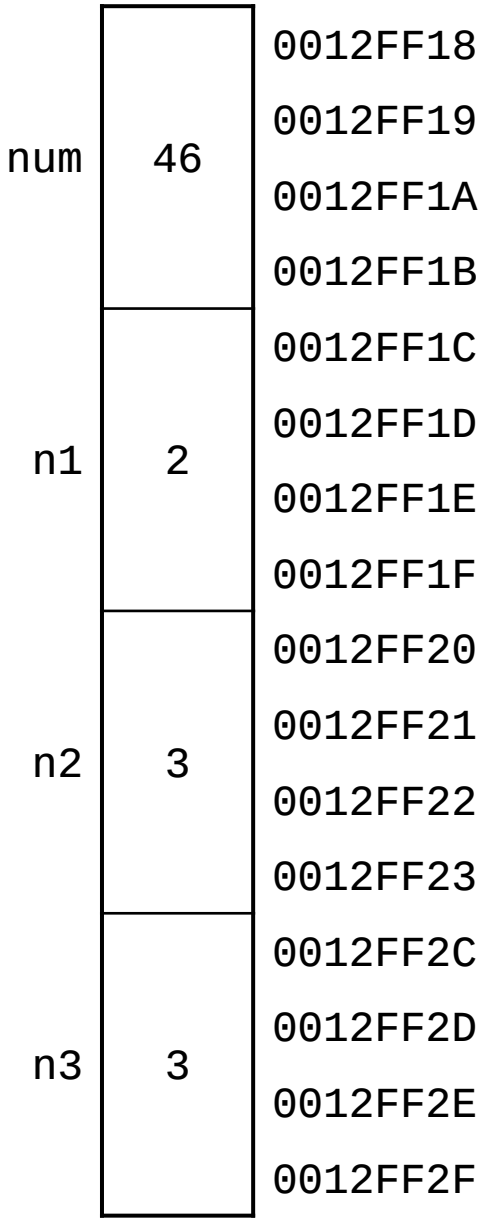

Fibonacci numbers

```
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int n2{ 1 };
int n3{ 2 };
cout << n1 << endl;
cout << n2 << endl;
cout << n3 << endl;

n1 = n2;
n2 = n3;
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cout << n3 << endl;

n1 = n2;
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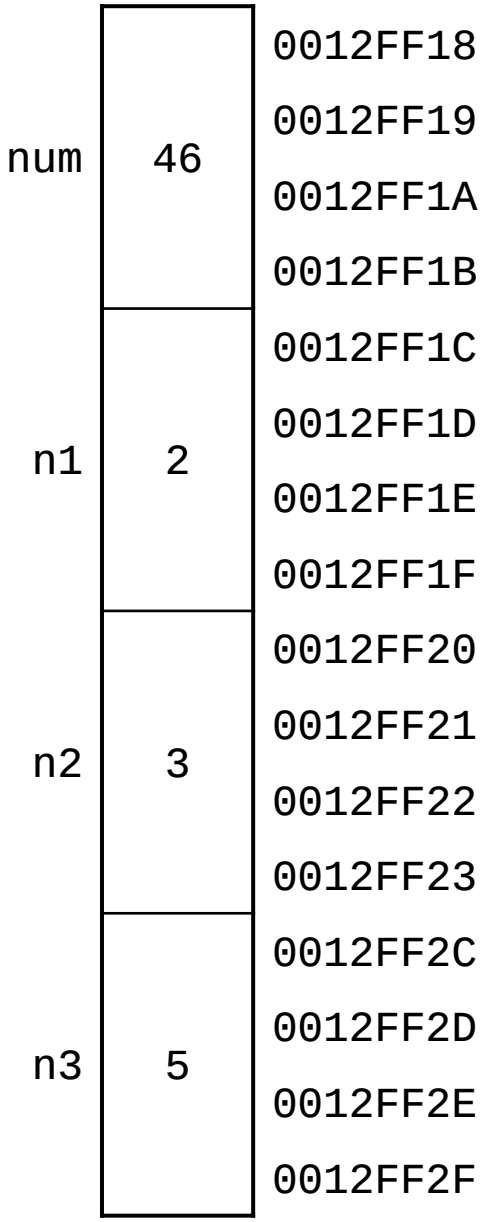
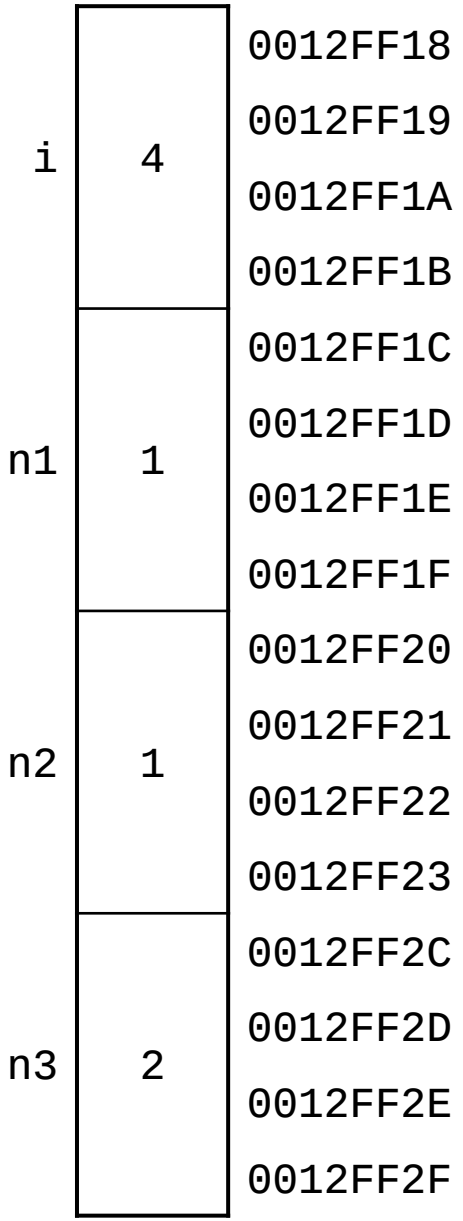


Fibonacci numbers

```
int number;
int n1{ 1 };
int n2{ 1 };
int n3{ 2 };
cin >> number;
cout << n1 << endl;
cout << n2 << endl;
cout << n3 << endl;

for( int i{ 4 }; i <= number; ++i )
{
   n1 = n2;
   n2 = n3;
   n3 = n1 + n2;
   cout << n3 << endl;
}
```



Fibonacci numbers

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int number;
int n1{ 1 };
int n2{ 1 };
int n3{ 2 };
cin >> number;
cout << n1 << endl;
cout << n2 << endl;
cout << n3 << endl;

for( int i{ 4 }; i <= number; ++i )
{
   n1 = n2;
   n2 = n3;
   n3 = n1 + n2;
   cout << n3 << endl;
}
```

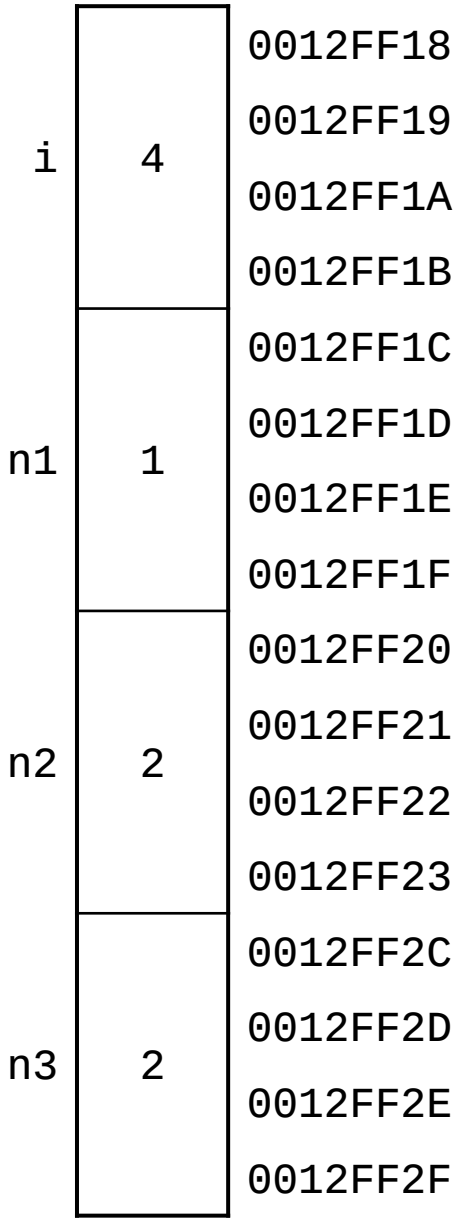

Fibonacci numbers

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int number;
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cin >> number;
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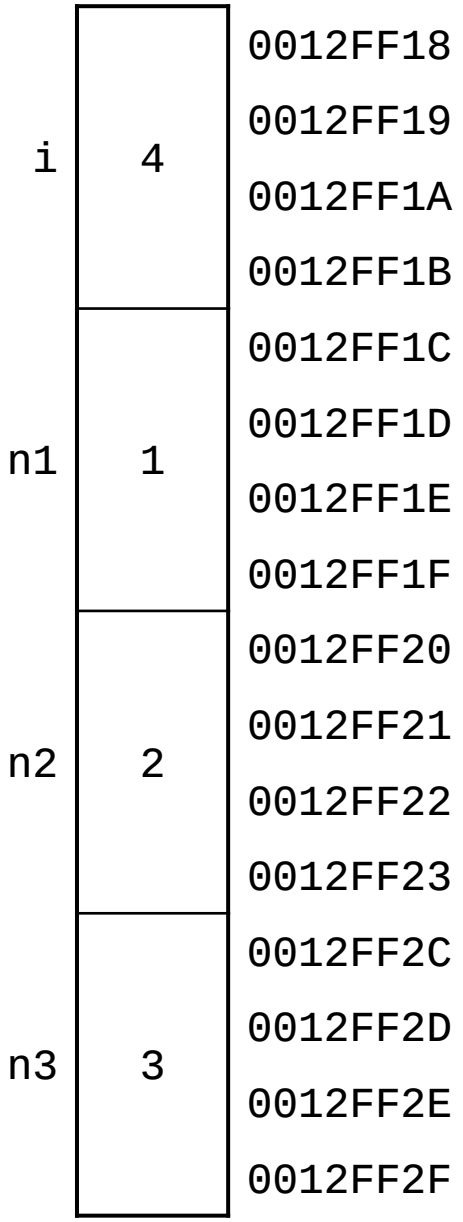
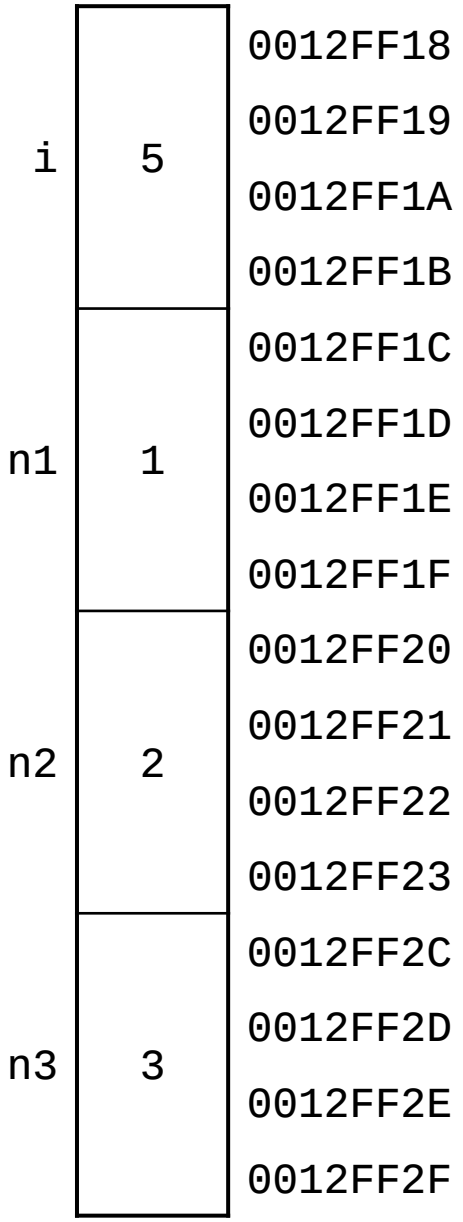
for( int i{ 4 }; i <= number; ++i )
{
   n1 = n2;
   n2 = n3;
   n3 = n1 + n2;
   cout << n3 << endl;
}
```



Fibonacci numbers

```
int number;
int n1{ 1 };
int n2{ 1 };
int n3{ 2 };
cin >> number;
cout << n1 << endl;
cout << n2 << endl;
cout << n3 << endl;

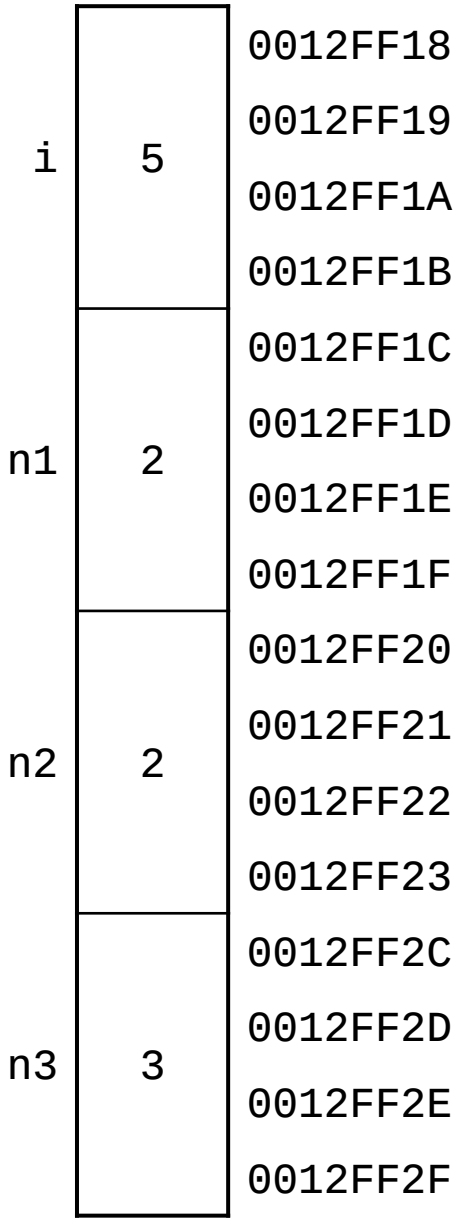
for( int i{ 4 }; i <= number; ++i )
{
   n1 = n2;
   n2 = n3;
   n3 = n1 + n2;
   cout << n3 << endl;
}
```



Fibonacci numbers

```
int number;
int n1{ 1 };
int n2{ 1 };
int n3{ 2 };
cin >> number;
cout << n1 << endl;
cout << n2 << endl;
cout << n3 << endl;

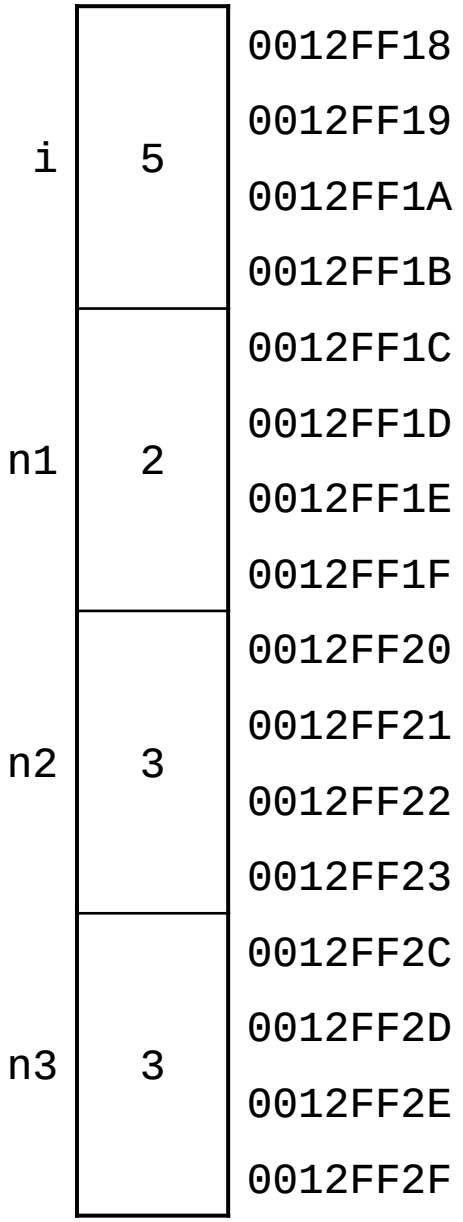
for( int i{ 4 }; i <= number; ++i )
{
   n1 = n2;
   n2 = n3;
   n3 = n1 + n2;
   cout << n3 << endl;
}
```



Fibonacci numbers

```
int number;
int n1{ 1 };
int n2{ 1 };
int n3{ 2 };
cin >> number;
cout << n1 << endl;
cout << n2 << endl;
cout << n3 << endl;

for( int i{ 4 }; i <= number; ++i )
{
   n1 = n2;
   n2 = n3;
   n3 = n1 + n2;
   cout << n3 << endl;
}
```



Fibonacci numbers

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cin >> number;
cout << n1 << endl;
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for( int i{ 4 }; i <= number; ++i )
{
   n1 = n2;
   n2 = n3;
   n3 = n1 + n2;
   cout << n3 << endl;
}
```

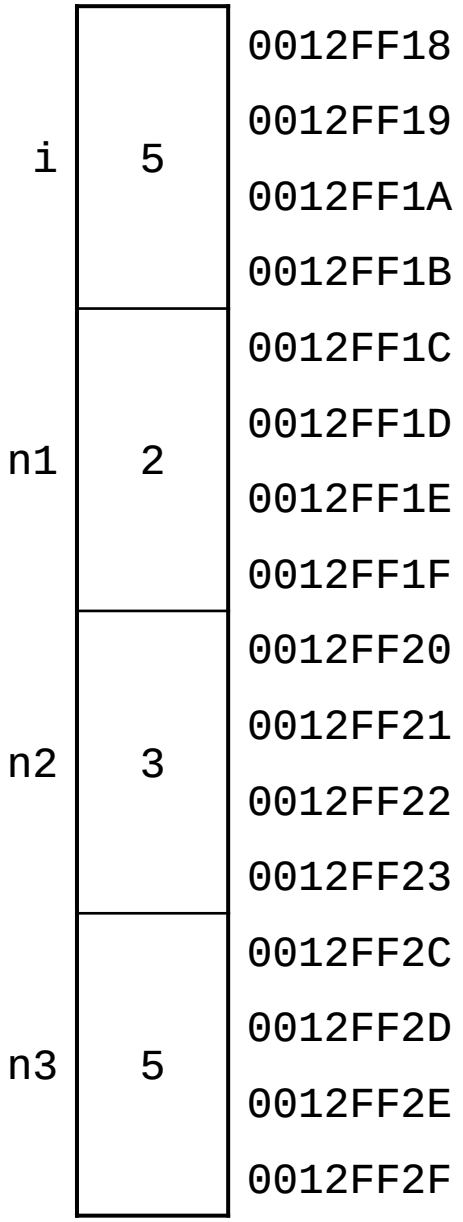

```cpp
int main()
{
   int number;
   int n1{ 1 };
   int n2{ 1 };
   int n3{ 2 };

   cout << "Enter a positive number ( 1 - 46 ): ";
   cin >> number;
   cout << endl;

   cout << n1 << endl;
   cout << n2 << endl;
   cout << n3 << endl;

   for( int i{ 4 }; i <= number; ++i )
   {
      n1 = n2;
      n2 = n3;
      n3 = n1 + n2;
      cout << n3 << endl;
   }
}
```